



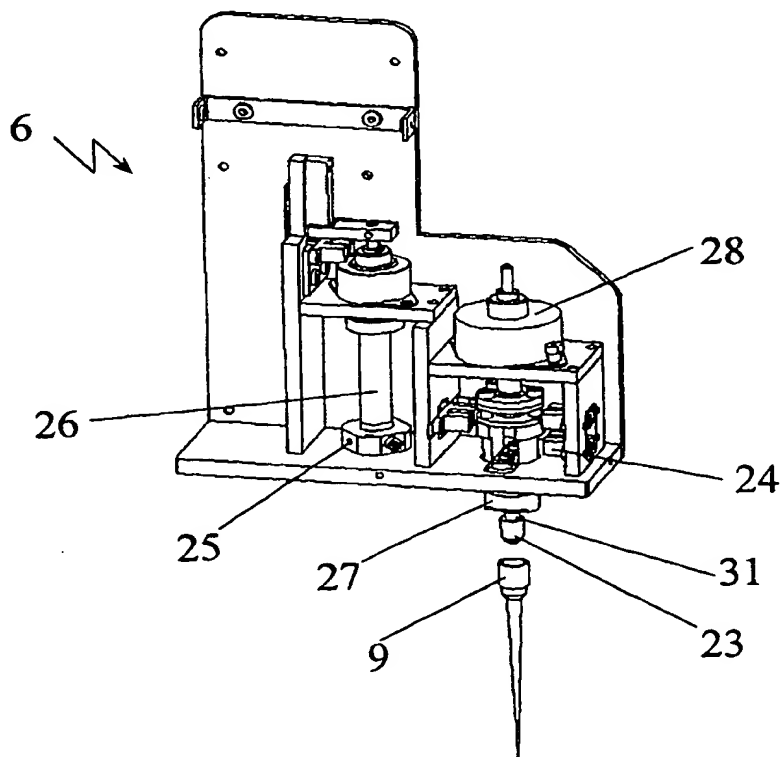
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/GB99/02425 (22) International Filing Date: 23 July 1999 (23.07.99) (30) Priority Data: 9816943.6      4 August 1998 (04.08.98)      GB 9816944.4      4 August 1998 (04.08.98)      GB (71) Applicant (for all designated States except US): DYNEX TECHNOLOGIES INC. [US/US]; 14340 Sullyfield Circle, Chantilly, VA 22021 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): BOTT, Jon [GB/GB]; Flat 5, Avenue Vivier, Ville au Roi, St. Peter Port, Guernsey (GB); FUSSELLIER, Andrew [GB/GB]; L'Eclaire, Rue du Laitte, Torteval, Guernsey (GB); BUNCE, Adrian [GB/GB]; 51 The Boulevard, Worthing, West Sussex BN13 1JZ (GB); LE PAGE, Paul [GB/GB]; Tregenna, Le Mont D'aval, Castel, Guernsey GY5 0PD (GB). (74) Agent: JEFFREY, Philip, Michael; Frank B. Dehn & Co., 179 Queen Victoria Street, London EC4V 4EL (GB).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DE (Utility model), DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With a revised version of the international search report. (88) Date of publication of the international search report: 13 July 2000 (13.07.00) (88) Date of publication of the revised version of the international search report: 14 September 2000 (14.09.00)	

(54) Title: AUTOMATED IMMUNOASSAY APPARATUS WITH FLEXIBLE PICK-UP ARM

(57) Abstract

An automated sample handling apparatus is disclosed having a pipette mechanism (6) which has an integral clamp device (27, 31, 23) suitable for picking up one or more items other than a disposable tip (8; 12) such as a plate holder (35) which can carry a microplate or other consumable item(s). A retractable drawer (14) for carrying a plurality of microplates (13) is also provided.



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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/02425

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N35/00 //G01N33/53

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N B01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LITTLE J N ET AL: "RECENT ADVANCES IN ROBOTIC AUTOMATION OF MICROPLATE ASSAYS" LABORATORY AUTOMATION & INFORMATION MANAGEMENT, vol. 26, no. 2, 1 November 1994 (1994-11-01), pages 89-99, XP000476920 ISSN: 1381-141X page 90, column 1, line 4 -page 90, column 1, line 10 page 90, column 1, line 19 -page 90, column 1, line 24 page 91, column 2, line 6 -page 95, column 2, line 12 page 96, column 1, paragraph 5 --- -/--	1,2,8, 13,17-21

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

29 June 2000

Date of mailing of the international search report

29 JUNE 2000

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/02425

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	column 4, line 51 -column 5, line 19 column 9, line 37 -column 10, line 27 column 13, line 4 -column 13, line 32 column 13, line 55 -column 14, line 6 column 14, line 26 -column 14, line 27 column 14, line 49 -column 14, line 56 figures 1,3,11,14,15,19,22 ---	3-7
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A	page 6, line 21 -page 6, line 38	7
A	page 9, line 2 -page 10, line 1 figures 2,5,8,11 ---	2,4
X	EP 0 441 755 A (CHEMILA SRL) 14 August 1991 (1991-08-14)  abstract column 2, line 8 -column 2, line 51 column 3, line 9 -column 4, line 27 column 5, line 25 -column 5, line 47 figures 1-4 ---	22,26, 27,29, 30,32,33
A	figures 1-4 ---	31
X	US 3 912 456 A (YOUNG ROBERT R) 14 October 1975 (1975-10-14) column 3, line 44 -column 4, line 14 column 6, line 17 -column 7, line 2 column 7, line 57 -column 8, line 54 column 10, line 20 -column 10, line 29 figures 1-5 ---	22,28,32
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# INTERNATIONAL SEARCH REPORT

Inter. Patent Application No

PCT/GB 99/02425

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB 99/02425

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-21

Immunoassay, or biochemical diagnostics device with a movable arm and flexible pick-up means comprising a clamp, the pick-up means being suitable for coupling to a disposable pipette tip and other items (like, e.g., the holder of a microplate), and the movable arm being connected to a pipette mechanism.

2. Claims: 22-33

Automated immunoassay device comprising a washer, reader or incubator module as well as a retractable drawer for one of the following items: a microplate, a plate holder, one or more sample tubes, a sample rack, a reagent container, a reagent rack, a control container, a control rack, and a tip rack.

# INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/GB 99/02425

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